

REMARKS

Claims 3-6 and 8-13 are all the claims pending in the application. By this Amendment, Applicant adds claims 14 and 15. Claims 14 and 15 are clearly supported throughout the specification *e.g.*, Figs. 6 and 7 and pages 14 and 15 of the specification.

I. Preliminary Matters

As preliminary matters, Applicant thanks the Examiner for indicating acceptance of the drawings filed on August 24, 2001.

Applicant again respectfully requests that the Examiner return a completely initialed form PTO-1449 submitted with the Information Disclosure Statement filed on December 5, 2001. Specifically, the Examiner did not initial the reference Boyes listed under “Other Documents”. For the Examiner’s convenience, Applicant is enclosing herewith the form PTO-1449 to be completed by the Examiner and another copy of the Boyes reference as previously filed on December 5, 2001. This submission is not a new Information Disclosure Statement and no fees are required.

II. Summary of the Office Action

The Examiner withdrew the previous rejections. The Examiner, however, found new grounds for rejecting the claims. Specifically, claims 3-6, 8-10, and 12 are rejected under 35 U.S.C. § 103(a) and claims 11 and 13 are indicated as containing allowable subject matter.

III. Prior Art Rejections

The Examiner has rejected claims 3-6, 8-10, and 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,041,358 to Huang et al. (hereinafter “Huang”) in view of

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U.S. Patent No. 6,111,888 to Green et al. (hereinafter “Green”). Applicant respectfully traverses these grounds of rejection in view of the following comments.

This response, at least initially focuses on the independent claim 3. Claim 3, among a number of unique features, recites: “assigning a pair of object identifiers to a pair of nodes for facilitating communication between the nodes using the Ethernet frames.” The Examiner alleges that claim 3 is directed to a method for transmitting Ethernet frames and is obvious in view of the combined teachings of Huang and Green. Specifically, the Examiner alleges that Huang’s personal terminal LAN server node (LES) assigning virtual channel identifiers (VCI) discloses the above-quoted features of claim 3 (*see* page 3 of the Office Action). Applicant respectfully disagrees. Applicant has carefully studied Huang’s disclosure of assigning virtual channel identifiers (VCIs) and has found that Huang’s discloses assigning VCIs to various channels between nodes, and not to the nodes themselves.

In an exemplary, non-limiting embodiment of the present invention, communication of Ethernet frames between two nodes via a CAN bus is enabled by assigning a pair of CAN object identifiers to a pair of nodes. The pair of CAN object identifiers is taken from a centrally administered finite number of usable CAN object identifiers. That is, in a point to point transmission and in a broadcast transmission, the node requests a CAN object identifier from the server. The server provides the node with a CAN object identifier, which is also registered by all other stations on the bus. The server manages the finite number of CAN object identifiers and provides them to various nodes based on various criteria (*see* pages 15-16 of the specification). Accordingly, transmission of the Ethernet frames via a transmission protocol other than the Ethernet standard protocol is made possible (page 5 of the specification).

Huang, on the other hand, relates to a method and system for implementing virtual local area networks (VLANs) over ATM using LAN over ATM emulation technology. Server nodes which provide address registration/resolution and which enable multicast and broadcast routing on each VLAN are interconnected into multiple trees. The root server nodes of each tree are interconnected according to a hypercube topology. Data structures for maintaining the locations and routing information of mobile terminals are also provided (*see* Abstract).

Specifically, Huang discloses that when node MT1 of the first VLAN1 desires to communicate with node s4 of the second node VLAN2, the node MT1 transmits an address resolution protocol (ARP) request packet containing the IP address of the destination node s4 to the LES1. The LES1 transmits the ARP packet to other LESs, including the LES2. The LES2 maintains an address translation table for translating IP addresses of each of its connected nodes to data-link layer addresses. The LES2 responds to the ARP packet by transmitting a reply packet to the LES1 containing the IP address to data-link layer address translation for the node s4. In this case, the translation may consist of the ATM address of the bridge b2. The LES1 then transmits the reply packet to BS1. The node BS1 then sets up a VCC with the node b1. Thereafter, the packets can be transmitted from the node MT1 to the node BS1 to the ATM communications network to the node b2 and then to the node s4 (Fig. 1; col. 3, lines 36 to 55).

The Examiner alleges that col. 2, lines 3 to 31 of Huang disclose a server (LES) assigning a pair of Virtual Channel Identifiers (VCI) to a pair of nodes (*see* page 3 of the Office Action). Col. 2, lines 3 to 31, of Huang recites:

In contrast, according to ATM, cells are communicated in dedicated virtual channels between pairs of nodes. A virtual channel (VC) is defined as a communication channel

dynamically allocated by a node for transmitting cells of a particular connection to a second node. The collection of all VC's of a sequence of connections is referred to as a virtual channel connection (VCC). In setting up a sequence of connections, a VCC identifier is assigned to the communication. Each node (e.g., the node b1) in the sequence of nodes (e.g., b1, . . . , b2) allocates a virtual channel for conveying cells to the next node in the sequence of nodes for the communication (e.g., the node b2). Each node of the sequence of nodes creates an entry in a routing table for each communication. Each entry is indexed by the VCC identifier of the respective communication and contains information regarding how to transmit received (or newly generated) cells to the next node of the sequence of nodes. For instance, the indexed routing table entry may contain an indication of the virtual channel for routing the cell, such as a VC identifier (VCI). In setting up a communication, a source node transmits a communication setup request cell to an appropriate node capable of setting up the communication. The set up request cell contains the ATM address of the destination node. The setup request cell propagates from node to node of the ATM network as VC's are allocated for the communication until the destination node is reached. A response cell is then transmitted back to the source node indicating the VCC identifier of the communication that is set up (emphasis added).

In other words, as is visible from the above-quoted passage, Huang discloses each VCI indicating one virtual channel (VC) between two nodes. That is, Huang does not disclose or suggest assigning a pair of VCIs to a pair of nodes. Moreover, the VCIs identify channels and not objects such as CAN objects. Accordingly, Huang fails to disclose or suggest assigning a pair of object identifiers to a pair of nodes for facilitating communication between the nodes using the Ethernet frames.

Green fails to cure the deficient teachings of Huang. Green discloses an apparatus and a method for deterministically communicating data between multiple nodes in a fashion that is consistent with the Controller Area Network ("CAN") communications protocol (*see* Abstract). Specifically, Green discloses reducing the number of messages needed to transfer data in a deterministic manner between a plurality of nodes communicatively connected by a bus using CAN serial communications protocol by having a time division of three periods. During a first segment or period of the time division, a synchronization signal notifies all the nodes on the bus of the start of a new time division. During a second period, each of the nodes generating real-time data transmits that data to the bus. During a third period, any node can request and transmit non-real-time data over the bus. Accordingly, real-time data, used to control continuous, real-time processes, is transmitted at known, regular intervals over the bus (col. 4, lines 6 to 21).

Green, however, fails to disclose or suggest assigning a pair of object identifiers to a pair of nodes for facilitating communication between the nodes using Ethernet frames. Clearly, Green fails to cure the deficient teachings of Huang.

Therefore, "assigning a pair of object identifiers to a pair of nodes for facilitating communication between the nodes using the Ethernet frames," is not disclosed or suggested by the combined teachings of Huang and Green, which lack assigning object identifiers to the nodes.

Moreover, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine Huang and Green to "take advantage of the CAN (ISO 11898) protocol well known in the art" (*see* page 3 of the Office Action). It is respectfully submitted that one of ordinary skill in the art would not know how and would not be able to implement the CAN

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protocol of Green with the VLANs over ATM of Huang. Moreover, the proposed modification will change the principle of operation of Huang.

In addition, the rationale set forth in the Office Action, amounts to a broad conclusory statement *i.e.*, under this rationale any protocol may be combined with another protocol without taking into consideration the specificity of each protocol. Applicant respectfully submits that ***most if not all inventions arise from a combination of old elements.*** *In re Kotzab*, 55 USPQ2d at 1316 (*citing In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998)). Thus, every element of a claimed invention may often be found in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *In re Kotzab*, 55 USPQ2d at 1316 (*citing In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); and *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

Although a reference need not expressly teach that the disclosure contained therein should be combined with another, ***the showing of combinability, in whatever form, must nevertheless be “clear and particular.”*** *Winner International Royalty Corporation v. Ching-Rong Wang*, (Fed. Cir. 2000) (citations omitted). *Also see* MPEP § 2143. The statement that it is advantageous to include a protocol for its advantages can hardly amount to the “clear and particular” showing of combinability envisioned by the courts. In short, one of ordinary skill in the art would not have been motivated to combine the references in the manner suggested by the Examiner.

For at least these exemplary reasons, Applicant respectfully submits that claim 3 is patentable over the combined teachings of Huang and Green. In view thereof, it is appropriate and necessary for the Examiner to withdraw this rejection of claim 3.

Independent claims 4, 5, and 8 recite features similar to, although not necessarily coextensive with, the features argued above with respect to claim 3. Therefore, arguments presented with respect to claim 3 are respectfully submitted to apply with equal force here. For at least substantially analogous reasons, therefore, independent claims 4, 5, and 8 are patentable over the combined teachings of Huang and Green. Claims 6, 9, 10, and 12 are patentable at least by virtue of their dependency on claims 5 and 8.

In addition, independent claim 8 recites: “administering by a central entity (CAN Object Identifier Server) a number of usable CAN (Controller Area Network) object identifiers.” Applicant respectfully submits that Huang fails to disclose or suggest identifiers of a CAN object and having a CAN Object Identifier Server. Green fails to cure the deficient teachings of Huang. Huang relates to splitting up a CAN session into three periods and fails to disclose or suggest CAN objects and a CAN Object Identifier Server. For at least these additional reasons, independent claim 8 is patentable over the combined teachings of Huang and Green.

Furthermore, dependent claim 9 recites: “the central entity (CAN Object Identifier Server) requests return of the assigned CAN object identifiers as supply of free CAN object identifiers becomes scarce.” The Office Action indicates that claim 9 has limitations similar to claim 8 and thus is rejected under the same rationale (*see* page 4 of the Office Action).

Applicant respectfully submits, however, that Huang does not disclose or suggest the supply of VCIs being scarce and any requests for a return of the assigned VCIs. Green does not cure the

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deficient teachings of Huang. Accordingly, for at least these additional exemplary reasons, Applicant respectfully submits that claim 9 is patentable over the combined teachings of Huang and Green.

With respect to claim 10, the Office Action indicates that claim 10 has limitations similar to claim 8 and thus is rejected under the same rationale (*see* page 4 of the Office Action). Claim 10, however, recites allocating “a private unique CAN object identifier to the subscriber node.” Applicant respectfully submits that the combined teachings of Huang and Green do not disclose or suggest at least these unique features of claim 10. For at least these additional exemplary reasons, Applicant respectfully submits that claim 10 is patentable over the combined teachings of Huang and Green.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 11 and 13 contain allowable subject matter. Applicant respectfully holds the rewriting of these claims in abeyance until the arguments presented with respect to claim 8 have been considered. Applicant does not acquiesce to the Examiner’s reasons for allowance.

New Claims

In order to provide more varied protection, Applicant adds claims 14 and 15. Claims 14 and 15 are patentable at least by virtue of their dependency on claim 3.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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